WHAT IS CLAIMED IS:

1. A method for intradermal administration of a biologically active agent into cells in a region of tissue of a subject, said method comprising:

   a) contacting the intradermal cells with said agent in a form suitable for electrotransport into said region using one or more needle-free injectors; and

   b) applying an electric field capable of electroporating said agent into said cells of said region, wherein said electroporating is conducted prior to, simultaneously with, and/or subsequently to said contacting said agent with the intradermal cells,

   whereby the combination of needle-free injection and electroporation is sufficient to introduce the agent into the cells.

2. The method of claim 1, wherein the electric field is generated by a square, rectangular, triangular, or exponential decay wave pulse.

3. The method of claim 2, wherein the pulse is of at least 50 V.

4. The method of claim 2, wherein the pulse is from about 100 μsec to 100 msec.

5. The method of claim 2, wherein the pulse is monopolar or bipolar.

6. The method of claim 1, wherein transdermal administration with the needle-free injector is simultaneous with application of the electric field wherein the needle-free injector acts as an electrode.

7. The method of claim 1, wherein the electric field is applied by contacting said tissues of said region with at least two of the injectors in spaced apart relation, with one of the injectors serving as a donor electrode and the other serving as a receptor electrode.

8. The method of claim 1, wherein application of the electric field and injection of the active agent is substantially simultaneous.

9. The method of claim 1, wherein the agent is in the form of a conductive liquid.

10. The method of claim 9, wherein the active agent is contained in a partially ionized solvent.

11. The method of claim 1, wherein the active agent is contained within a controlled release vehicle.

12. The method of claim 1, wherein the method is *in vivo*.

13. The method of claim 1, wherein the subject is a mammal.

14. The method of claim 1, wherein the subject is a human.

15. The method of claim 1, wherein the agent is a therapeutic agent.

16. The method of claim 15, wherein the therapeutic agent is selected from the group consisting of a chemotherapeutic agent, a polynucleotide, a polypeptide and a peptide.

17. The method of claim 16, wherein the chemotherapeutic agent is selected from the group consisting of bleomycin, neocarcinostatin, carboplatin, cisplatin, suramin, doxorubicin, mitomycin C, and cisplatin, and suitable combinations thereof.

18. The method of claim 15, wherein the therapeutic agent is a nucleic acid construct encoding a homologous or heterologous gene product.

19. The method of claim 18, wherein the cells are transfected with the nucleic acid construct so that the gene product is expressed in the cells of the subject.

20. The method of claim 18, wherein the nucleic acid construct is an expression vector.

21. The method of claim 20, wherein the expression vector contains a homologous or heterologous nucleic acid encoding a gene product operably linked to a suitable promoter sequence.

22. The method of claim 18, wherein the gene product is expressed in the cells of the subject.

23. The method of claim 15, wherein the therapeutic agent is an antibody.

24. The method of claim 15, wherein the therapeutic agent is an antibiotic.

25. The method of claim 1, wherein the active agent is a hormone, a cytokine, a lymphokine, a growth factor, or a combination thereof.

26. The method of claim 1, wherein the agent is injected into skin tissue and the cells are underlying muscle cells.

27. The method of claim 1, wherein the agent is mixed with a lipid.

28. The method of claim 1, wherein the tissue is skin tissue.

29. The method of claim 1, wherein the agent is introduced encapsulated in a liposome or mixed with a charged lipid.

30. The method of claim 1, wherein the agent is in a liquid and the injector forces the liquid into the tissue as a conductive or essentially non-conductive liquid jet.

31. The method of claim 30, wherein the liquid jet acts as an electrode.

32. The method of claim 1, wherein the method further comprises applying iontophoresis to the tissue.

33. The method according to claim 1, wherein the active agent is a proliferation-modulating agent.

34. The method according to claim 33, wherein the proliferation-modulating agent is an antisense nucleic acid sequence, a ribozyme, a nucleic acid sequence, a triplex agent, or a combination thereof.

35. The method according to claim 33, wherein introduction of the active agent is in treatment or prevention of a cell-proliferative disorder or condition in a subject in need thereof.

36. The method according to claim 1, wherein the active agent comprises at least one antigenic epitope.

37. The method according to claim 36, wherein introduction of the active agent generates an immune response in a subject in need thereof.

38. A method for introducing an agent into cells in a region of tissue of a subject, said method comprising:

a) injecting a biologically active agent into a region of intradermal tissue of a subject with two or more spaced apart needle-free injectors and

b) applying an electrical field to the tissue via the two or more injectors prior to, simultaneously with, and/or subsequently to injection of the agent so as to electroporate the region of tissue,

whereby the combination of needle-free injection and electroporation is sufficient to introduce the agent into the cells in the region of tissue.

39. The method of claim 38, wherein the electric field is applied via two oppositely charged injectors.

40. A method for intramuscular administration of a biologically active agent into cells in a region of tissue of a subject, said method comprising:

a) contacting the intramuscular cells with said agent in a form suitable for electrotransport into said region using one or more needle-free injectors; and

b) applying an electric field capable of electroporating said agent into said cells of said region, wherein said electroporating is conducted prior to, simultaneously with, and/or subsequently to said contacting said agent with the intramuscular cells,

whereby the combination of needle-free injection and electroporation is sufficient to introduce the agent into the intramuscular cells.

41. The method of claim 1, wherein the electric field is generated by a square, rectangular, triangular, or exponential decay wave pulse.

42. The method of claim 41, wherein the pulse is of at least 50 V.

43. The method of claim 41, wherein the pulse is from about 100 μsec to 100 msec.

44. The method of claim 41, wherein the pulse is monopolar or bipolar.

45. The method of claim 40, wherein administration with the needle-free injector is simultaneous with application of the electric field wherein the needle-free injector acts as an electrode.

46. The method of claim 40, wherein the electric field is applied by contacting said tissues of said region with at least two of the injectors in spaced apart relation, with one of the injectors serving as a donor electrode and the other serving as a receptor electrode.

47. The method of claim 40, wherein application of the electric field and injection of the active agent is substantially simultaneous.

48. The method of claim 40, wherein the agent is in the form of a conductive liquid.

49. The method of claim 48, wherein the active agent is contained in a partially ionized solvent.

50. The method of claim 40, wherein the active agent is contained within a controlled release vehicle.

51. The method of claim 40, wherein the method is *in vivo*.

52. The method of claim 40, wherein the subject is a mammal.

53. The method of claim 40, wherein the subject is a human.

54. The method of claim 40, wherein the agent is a therapeutic agent.

55. The method of claim 54, wherein the therapeutic agent is selected from the group consisting of a chemotherapeutic agent, a polynucleotide, a polypeptide and a peptide.

56. The method of claim 55, wherein the chemotherapeutic agent is selected from the group consisting of bleomycin, neocarcinostatin, carboplatin, cisplatin, suramin, doxorubicin, mitomycin C, and cisplatin, and suitable combinations thereof.

57. The method of claim 54, wherein the therapeutic agent is a nucleic acid construct encoding a homologous or heterologous gene product.

58. The method of claim 57, wherein the cells are transfected with the nucleic acid construct so that the gene product is expressed in the cells of the subject.

59. The method of claim 57, wherein the nucleic acid construct is an expression vector.

60. The method of claim 59, wherein the expression vector contains a homologous or heterologous nucleic acid encoding a gene product operably linked to a suitable promoter sequence.

61. The method of claim 57, wherein the gene product is expressed in the cells of the subject.

62. The method of claim 54, wherein the therapeutic agent is an antibody.

63. The method of claim 54, wherein the therapeutic agent is an antibiotic.

64. The method of claim 40, wherein the active agent is a hormone, a cytokine, a lymphokine, a growth factor, or a combination thereof.

65. The method of claim 40, wherein the agent is mixed with a lipid.

66. The method of claim 40, wherein the agent is introduced encapsulated in a liposome or mixed with a charged lipid.

67. The method of claim 40, wherein the agent is in a liquid and the injector forces the liquid into the tissue as a conductive or essentially non-conductive liquid jet.

68. The method of claim 67, wherein the liquid jet acts as an electrode.

69. The method of claim 40, wherein the method further comprises applying iontophoresis to the tissue.

70. The method according to claim 40, wherein the active agent is a proliferation-modulating agent.

71. The method according to claim 70, wherein the proliferation-modulating agent is an antisense nucleic acid sequence, a ribozyme, a nucleic acid sequence, a triplex agent, or a combination thereof.

72. The method according to claim 71, wherein introduction of the active agent is in treatment or prevention of a cell-proliferative disorder or condition in a subject in need thereof.

73. The method according to claim 40, wherein the active agent comprises at least one antigenic epitope.

74. The method according to claim 73, wherein introduction of the active agent generates an immune response in a subject in need thereof.

75. A method for introducing an agent into cells in a region of tissue of a subject, said method comprising:

a) injecting a biologically active agent into a region of intramuscular tissue of a subject with two or more spaced apart needle-free injectors and

b) applying an electrical field to the tissue via the two or more injectors prior to, simultaneously with, and/or subsequently to injection of the agent so as to electroporate the region of tissue,

whereby the combination of needle-free injection and electroporation is sufficient to introduce the agent into the cells in the region of tissue.

76. The method of claim 75, wherein the electric field is applied via two oppositely charged injectors.

77. A method for intramucosal administration of a biologically active agent into cells in a region of tissue of a subject, said method comprising:

a) contacting the intramucosal cells with said agent in a form suitable for electrotransport into said region using one or more needle-free injectors; and

b) applying an electric field capable of electroporating said agent into said cells of said region, wherein said electroporating is conducted prior to, simultaneously with, and/or subsequently to said contacting said agent with the intramuscular cells,

whereby the combination of needle-free injection and electroporation is sufficient to introduce the agent into the intramucosal cells.

78. The method of claim 77, wherein the electric field is generated by a square, rectangular, triangular, or exponential decay wave pulse.

79. The method of claim 78, wherein the pulse is of at least 50 V.

80. The method of claim 78, wherein the pulse is from about 100 μsec to 100 msec.

81. The method of claim 78, wherein the pulse is monopolar or bipolar.

82. The method of claim 77, wherein administration with the needle-free injector is simultaneous with application of the electric field wherein the needle-free injector acts as an electrode.

83. The method of claim 77, wherein the electric field is applied by contacting said tissues of said region with at least two of the injectors in spaced apart relation, with one of the injectors serving as a donor electrode and the other serving as a receptor electrode.

84. The method of claim 77, wherein application of the electric field and injection of the active agent is substantially simultaneous.

85. The method of claim 77, wherein the agent is in the form of a conductive liquid.

86. The method of claim 85, wherein the active agent is contained in a partially ionized solvent.

87. The method of claim 77, wherein the active agent is contained within a controlled release vehicle.

88. The method of claim 77, wherein the method is *in vivo*.

89. The method of claim 77, wherein the subject is a mammal.

90. The method of claim 77, wherein the subject is a human.

91. The method of claim 77, wherein the agent is a therapeutic agent.

92. The method of claim 91, wherein the therapeutic agent is selected from the group consisting of a chemotherapeutic agent, a polynucleotide, a polypeptide and a peptide.

93. The method of claim 92, wherein the chemotherapeutic agent is selected from the group consisting of bleomycin, neocarcinostatin, carboplatin, cisplatin, suramin, doxorubicin, mitomycin C, and cisplatin, and suitable combinations thereof.

94. The method of claim 92, wherein the therapeutic agent is a nucleic acid construct encoding a homologous or heterologous gene product.

95. The method of claim 94, wherein the cells are transfected with the nucleic acid construct so that the gene product is expressed in the cells of the subject.

96. The method of claim 94, wherein the nucleic acid construct is an expression vector.

97. The method of claim 96, wherein the expression vector contains a homologous or heterologous nucleic acid encoding a gene product operably linked to a suitable promoter sequence.

98. The method of claim 97, wherein the gene product is expressed in the cells of the subject.

99. The method of claim 91, wherein the therapeutic agent is an antibody.

100. The method of claim 91, wherein the therapeutic agent is an antibiotic.

101. The method of claim 77, wherein the active agent is a hormone, a cytokine, a lymphokine, a growth factor, or a combination thereof.

102. The method of claim 77, wherein the agent is mixed with a lipid.

103. The method of claim 77, wherein the agent is introduced encapsulated in a liposome or mixed with a charged lipid.

104. The method of claim 77, wherein the agent is in a liquid and the injector forces the liquid into the tissue as a conductive or essentially non-conductive liquid jet.

105. The method of claim 68, wherein the liquid jet acts as an electrode.

106. The method of claim 77, wherein the method further comprises applying iontophoresis to the tissue.

107. The method according to claim 77, wherein the active agent is a proliferation-modulating agent.

108. The method according to claim 71, wherein the proliferation-modulating agent is an antisense nucleic acid sequence, a ribozyme, a nucleic acid sequence, a triplex agent, or a combination thereof.

109. The method according to claim 71, wherein introduction of the active agent is in treatment or prevention of a cell-proliferative disorder or condition in a subject in need thereof.

110. The method according to claim 77, wherein the active agent comprises at least one antigenic epitope.

111. The method according to claim 74, wherein introduction of the active agent generates an immune response in a subject in need thereof.

112. A method for introducing an agent into cells in a region of tissue of a subject, said method comprising:

a) injecting a biologically active agent into a region of intramucosal tissue of a subject with two or more spaced apart needle-free injectors and

b) applying an electrical field to the tissue via the two or more injectors prior to, simultaneously with, and/or subsequently to injection of the agent so as to electroporate the region of tissue,

whereby the combination of needle-free injection and electroporation is sufficient to introduce the agent into the cells in the region of intramucosal tissue.

113. The method of claim 112, wherein the electric field is applied via two oppositely charged injectors.